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separate the posterior end of the preorbital from the side of the head. From the tip of the snout to the end of the maxillary the Atlantic specimens measure 10 hundredths, while the Pacific ones measure 11 hundredths.

There is a difference in the size of the head, as was found by Evermann and Kendall. In the Atlantic specimens this runs from 26 to $26\frac{1}{2}$ hundredths, in those from the Pacific from 27 to 28 hundredths.

A scarcely appreciable difference appears in the length of the snout, running from 8 to $8\frac{1}{2}$ hundredths in Atlantic specimens, and from $8\frac{1}{2}$ to 9 in Pacific ones.

Of the large number of other measurements taken no differences appeared. Among these were length of gill-rakers, diameter of eye, length of fin bases, distances between fins, and length of fin rays and spines.

As published in Science, September 9, 1921, I have raised the subgenus *Pneumatophorus* Jordan and Gilbert to generic rank, thus separating those forms of the former genus *Scomber* that have a swim bladder from those that have not. The Atlantic Chub Mackerel is thus *Pneumatophorus colias* (Gmelin), and the Pacific one *Pneumatophorus japonicus* (Hutton). Should the form from the Japanese Sea, *Pneumatophorus japonicus*, prove to be distinct from that from the western American coast the latter would be *Pneumatophorus diego* (Ayres).

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LAMPETRA WILDERI JORDAN AND EVERMANN IN THE DISTRICT OF COLUMBIA.

Three specimens of *Lampetra wilderi* Jordan and Evermann were taken in Oxon Run, a small tribu-

tary of the Patomac River, on February 1, April 11 and December 5, respectively in 1920. Since this species had not hitherto been recorded from this region, the writers were inclined to believe it to be the young of the known inhabitant of the locality, i.e., *Petromyzon marinus* Linnæus which approaches this species rather closely in the course of its development to adult form. However, comparison with material available at the time failed to prove definitely which species these lampreys were. Comparison with material at both the National and American Museums of Natural History still left the question an open one. It was finally through a suggestion from Mr. J. T. Nichols that the splendid specimens from the private collection of Mr. Roy Latham of Orient, Long Island, were obtained, which enabled the question to be satisfactorily settled.

The chief characters of the two species, the individuals compared being of nearly the same size, are given below. The specimen of *Lampetra* was taken on December 5, 1920; the specimen of *Petromyzon* was taken on November 27, 1918 at Orient, Long Island.

The proportions of *Lampetra* are given first in the following tabulation. Total length (in mm.), 128 and 122; depth, 15 and 19.7; width in depth, 1.4 and 1.5; last gill opening to vent, 1.8 and 2.1; last gill opening to origin of dorsal, 3.3 and 3.6; head, 8.5 and 7.2.

In *Lampetra*, the expanded buccal cavity was less than one-half head while in *Petromyzon* it was more than one-half. In the former the two dorsal fins just meet; in the latter they are separated by a space equal to 1.5 times the eye, or a distance equal to that between the first and fourth gill openings.

The coloration of *Lampetra* (in alcohol) is a nearly uniform brownish, slightly lightened below,

while that of the small examples of *Petromyzon* (in formalin) is plumbeous above and creamy below, the change being abrupt and close to the ventral profile. There is a well-developed urogenital palp in *Lampetra* equal in length to the diameter of the eye, while in the latter, there is no palp. The teeth are well developed and prominent in *Petromyzon*, approaching the condition obtained in the adult, while in *Lampetra* the teeth are very slightly developed.

The impossibility of our specimen being a large larva of *Petromyzon marinus* which for some reason had not found its way to the sea is shown by the presence of the urogenital palp and the other differences noted above.

A smaller specimen taken on April 11 measured 110 mm., was eyeless and showed a separation between the dorsals equal to the space between the first and second gill openings. It is known that the larvae of *Lampetra* have this gap between the dorsals which closes with age until in the adult there is found a distinct ridge at the juncture of the two fins. In *Petromyzon* the dorsals are always well separated.

The third specimen similar to the first, was unfortunately, lost disappearing in some manner from an aquarium in which it had been kept for a few months. In captivity it spent almost its entire time resting under the sand at the bottom of the tank and although about a dozen species of the common fresh-water fishes of the region were placed with it from time to time, it failed to attack any of them. This fact tends to support Gage's theory that this species is not parasitic.

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